

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application, and replaces the Amendments to the Claims section in the Amendment filed January 17, 2007.

Listing of Claims:

1. (CURRENTLY AMENDED) A shoulder press exercise machine, comprising:

a main frame having a user support pivot mount, a forward end and a rear end;

a user support pivotally mounted on the user support pivot mount for supporting a user in a seated position and ~~movable between a start position and an end position;~~

at least one exercise arm movably mounted on the frame, the exercise arm having user engagement means for gripping by a user in performing a shoulder press exercise, the exercise arm being movable in an exercise movement in which the user engagement means is located higher at the end of the exercise movement than at the start of the exercise movement between a start position in which the user engagement means is located in front of the shoulders of a user in a seated position on the user support frame in the start position of the user support frame and an end position higher than the start position in which the user engagement means is located above the head of the user with the user support frame in the end position;

a connecting linkage comprising means for connecting movement of the exercise arm to movement of the user support, whereby exercise movement of the exercise arm ~~from the start to the end position~~ simultaneously rotates the user support ~~from the start to the end position~~; and

a load separate from the user for resisting movement of at least one of the ~~moving parts of the machine user support, exercise arm, and connecting linkage;~~

whereby the combined motion of the user, user support ~~frame~~ and user engagement means ~~between the start and end position~~ substantially replicates the natural movement of the upper part of a human body when performing a free weight shoulder press exercise.

2. (CURRENTLY AMENDED) ~~The machine as claimed in claim 1,~~ wherein A shoulder press exercise machine, comprising:

a main frame having a user support pivot mount, a forward end and a rear end;

a user support pivotally mounted on the user support pivot mount for supporting a user in a seated position, the user support has having a seat pad and a back pad, the seat pad and back pad traveling in a fixed relationship relative to one another throughout the an exercise movement;

at least one exercise arm movably mounted on the frame, the exercise arm having user engagement means for gripping by a user in performing a shoulder press exercise, and being located higher at the end of a shoulder press exercise than at the beginning of the exercise;

a connecting linkage comprising means for connecting movement of the exercise arm to movement of the user support, whereby movement of the exercise arm simultaneously rotates the user support; and

a load for resisting movement of at least one of the user support, exercise arm, and connecting linkage;

whereby the combined motion of the user, user support and user engagement means substantially replicates the natural movement of the upper part of a human body when performing a free weight shoulder press exercise.

3. (CURRENTLY AMENDED) The machine as claimed in claim 2, wherein ~~the start position of the~~ user support is movable between exercise start and end positions, and the start position of the user support is a rearwardly reclined position.

4. (ORIGINAL) The machine as claimed in claim 3, wherein the end position of the user support is more rearwardly reclined position than the start position.

5. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 3, wherein ~~the user support has a seat portion and a back rest portion, the user support in the end position being is~~ positioned upwardly and forward from the start position with the back pad rest portion more reclined than in the start position.

6. (ORIGINAL) The machine as claimed in claim 2, wherein the user support further includes a foot plate for supporting the user's feet on the user support throughout the exercise movement.

7. (ORIGINAL) The machine as claimed in claim 2, wherein the seat pad is adjustable in height.

8. (WITHDRAWN) The machine as claimed in claim 1, including a foot rest mounted on the main frame in front of the user support for supporting the user's feet during an exercise movement.

9. (ORIGINAL) The machine as claimed in claim 1, wherein the exercise arm is moveably mounted on the frame for rotation about an exercise arm pivot.

10. (ORIGINAL) The machine as claimed in claim 9, wherein the exercise arm pivot is positioned rearward of the user support.
11. (ORIGINAL) The machine as claimed in claim 9, wherein the user support rotates in the same direction as the exercise arm.
12. (WITHDRAWN) The machine as claimed in claim 1, wherein the exercise arm is moveably mounted on the frame for movement in a linear path.
13. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 12, wherein the main frame has an inclined strut located behind said user support, and the exercise arm has a central portion movably mounted for movement along said strut ~~during an exercise between the start and end positions~~, and has arm portions projecting forward from said central portion on opposite sides of said user support, said user engaging means comprising handles at the ends of said arm portions.
14. (CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the user support has a user engaging region over which at least part of a user's body is located when the user is seated on the support, the user support pivot mount is positioned at a predetermined location under the user engaging region of the user support frame and beneath the user's body when supported on the frame, the pivot mount defining a vertical, gravitational center line, whereby movement of the user engagement device in an exercise movement simultaneously moves the user support ~~frame~~ between a start position and an end position, the user support pivot mount being positioned such that portions of the ~~combined weight of the user and~~ user engaging region of the user support frame are distributed on each side of the gravitational centerline of the pivot mount in both the start and end position and only a portion of the ~~combined weight~~ user engaging region of the user support passes through the gravitational centerline during the exercise movement.
15. (CANCELLED)
16. (CURRENTLY AMENDED) The machine as claimed in claim 14, wherein a greater portion of the user engaging region is located in front of the gravitational centerline in the start position than in the end position, ~~approximately 75% of the total weight of the user and user support is positioned in front of the gravitational centerline in the start position and approximately 50% of the total weight is~~ user support being located on each side of the centerline in the end position.

17. (ORIGINAL) The machine as claimed in claim 1, wherein the user support frame has a primary user support and a secondary user support held in fixed relative locations throughout an exercise movement, the primary support comprising a seat pad.

18. (ORIGINAL) The machine as claimed in claim 17, wherein the secondary support comprises a back pad.

19. (CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the user support has a user engaging region over which at least part of a user's body is located when seated on the user support, and the frame defines an initial position for the user's body when supported on the frame in the start position of the exercise, and a finish position for the user's body in the end position of the exercise, the user support pivot mount defining defines a gravitational centerline extending through the user's body user engaging region throughout an exercise movement in each of said user positions.

20. (CANCELLED)

21. (ORIGINAL) The machine as claimed in claim 1, wherein the main frame has a base and the user support pivot mount is mounted on the base.

22. (ORIGINAL) The machine as claimed in claim 1, wherein the exercise arm comprises a single rigid exercise arm having opposite arm portions extending on opposite sides of the user support, the arm portions having outer ends, and said user engaging means comprising angled handles at the outer ends of said arm portions.

23. (WITHDRAWN) The machine as claimed in claim 1, wherein a pair of independently movable exercise arms are movably mounted on the frame, each exercise arm having a user engagement means for engagement by a respective one of the user's hands.

24. (CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the connecting link linkage is a rigid link.

25. (ORIGINAL) The machine as claimed in claim 24, wherein the connecting link has a first end pivoted to said exercise arm and a second end pivoted to said user support frame.

26. (ORIGINAL) The machine as claimed in claim 25, wherein the user support has a seat portion and a backrest portion, and the second end of the connecting link is pivoted to said backrest portion.

27. (WITHDRAWN) The machine as claimed in claim 25, wherein the user support has a seat portion and a backrest portion, and the second end of the connecting link is pivoted to said seat portion.

28. (ORIGINAL) The machine as claimed in claim 24, wherein the connecting link is adjustable in length.

29. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 1, including a movable member movably mounted on said user support frame, the connecting link linkage having a first end pivoted to said movable member and a second end pivoted to said exercise arm.

30. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the connecting link linkage comprises a first gear toothed cam mounted on said user engagement device, a second gear toothed cam mounted on said user support frame, and a sprocket rotatably mounted on said frame and meshing with said first and second gear toothed cams so as to link movement of said user engagement device with movement of said user support frame.

31. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the connecting link linkage comprises a moving wedge member movably engaged with said main frame and user support frame, and said exercise arm is linked to said moving wedge member.

32. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the connecting link linkage comprises a cable and pulley linkage.

33. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the connecting link linkage comprises a movable member movably mounted on said main frame, a first linkage connecting said movable member to said user support, and a second linkage connecting said movable member to said exercise arm.

34. (WITHDRAWN - CURRENTLY AMENDED) The machine as claimed in claim 1, wherein the connecting link linkage comprises a multiple bar linkage between said user support, exercise arm, and main frame.

35. (CURRENTLY AMENDED) ~~The machine as claimed in claim 1, wherein~~ A shoulder press exercise machine, comprising:

a main frame having a user support pivot mount, a forward end and a rear end;

a user support pivotally mounted on the user support pivot mount for supporting a user in a seated position and movable between a start position and an end position;

at least one exercise arm movably mounted on the frame, the exercise arm having user engagement means for gripping by a user in performing a shoulder press exercise, and being located higher at the end of a shoulder press exercise than at the beginning of the exercise;

a connecting linkage comprising means for connecting movement of the exercise arm to movement of the user support, whereby movement of the exercise arm simultaneously rotates the user support; and

the load comprises a load comprising a selectorized weight stack for resisting movement of at least one of the user support, exercise arm, and connecting linkage;

whereby the combined motion of the user, user support and user engagement means between the start and end position substantially replicates the natural movement of the upper part of a human body when performing a free weight shoulder press exercise.

36. (WITHDRAWN) The machine as claimed in claim 1, wherein the load comprises weight plates.

37. (ORIGINAL) The machine as claimed in claim 1, wherein the load is linked to said user support frame.

38. (WITHDRAWN) The machine as claimed in claim 1, wherein the load is linked to said exercise arm.

39. (WITHDRAWN) The machine as claimed in claim 1, wherein the load is linked to said connecting link.

40. (CURRENTLY AMENDED) ~~The machine as claimed in claim 1, wherein~~ A shoulder press exercise machine, comprising:

a main frame having a user support pivot mount, a forward end and a rear end, the main frame has having a base and a rear upright at the rear end of the base;

a user support pivotally mounted on the user support pivot mount for supporting a user in a seated position and movable between a start position and an end position;

the an exercise arm being movably mounted on said rear upright and having arm portions projecting forward on opposite sides of said user support, the exercise arm having user engagement means for gripping by a user in performing a shoulder press exercise, the user engagement means comprising the only part of the machine actuated by a user in order to perform the exercise, the exercise arm having a start position corresponding to the start position of the user support and an end

position higher than the start position, the end position of the exercise arm corresponding to the end position of the user support;

a connecting linkage comprising means for connecting movement of the exercise arm to movement of the user support, whereby movement of the exercise arm from the start to the end position simultaneously rotates the user support from the start to the end position; and

a load for resisting movement of at least one of the user support, exercise arm, and connecting linkage;

whereby the combined motion of the user, user support frame and user engagement means between the start and end position substantially replicates the natural movement of the upper part of a human body when performing a free weight shoulder press exercise.

41. (ORIGINAL) The machine as claimed in claim 1, wherein said user support is L-shaped, having a seat supporting base and an upright back support member and a junction between the base and upright back support member.

42.(ORIGINAL) The machine as claimed in claim 41, wherein the user support pivot mount is located adjacent the junction of said base and upright back support member.

43. (ORIGINAL) The machine as claimed in claim 41, wherein said user support pivot mount is pivotally secured to said upright back support of said user support.

44. (ORIGINAL) The machine as claimed in claim 43, wherein said upright back support member has an upper end, the user support pivot mount being pivotally connected to the upper end of said upright back support member.

45. (CURRENTLY AMENDED) A shoulder press exercise machine for performing exercises equivalent to a free weight shoulder press exercise, comprising:

a main frame having a forward end and a rear end;

a user support pivot mount on the main frame;

a user support frame pivotally mounted on the user support pivot mount, the user support frame comprising one moving part of the machine, and having a seat portion and a back rest portion which travel in a fixed relationship throughout an exercise movement;

at least one exercise arm movably mounted on one of the frames for engagement by the user in performing exercises, the exercise arm having a user engaging handle, and comprising a second moving part of the machine;

a connecting link movably engaged with at least two of the main frame, user support frame and exercise arm for linking movement of the exercise arm to movement of the user support frame, the connecting link comprising a third moving part of the machine;

a load for resisting movement of at least one of the moving parts of the machine; and
whereby the combined motion of the user, user support frame and user engagement means between the an exercise start and end position substantially replicates the natural movement of the upper part of a human body when performing a free weight shoulder press exercise.

46. (CURRENTLY AMENDED) The machine as claimed in claim 45, wherein the exercise arm and user support frame are positioned relative to one another in the end position such that the handle is located ~~directly above the head of the user seated on~~ the back rest portion of the user support frame, whereby the user's arms are extended ~~extend straight~~ above their head ~~and in line with the side centerline of their body~~ in the exercise end position.